AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A method for classifying a type of bottom on a bottom under a liquid, which method comprises the steps of

- performing an acoustic reflection measurement, in which a first attribute is determined which represents a strength with which acoustic waves are reflected from a location on the bottom through the liquid in a reflection direction;

characterized in that the method further comprises the steps of

- performing an acoustic scattering measurement, in which a second attribute is determined of acoustic waves that are scattered essentially from said location on the bottom;

- providing a search unit, which contains information with regard to different combinations of the values of the first and second attributes, and associates said combinations with respective bottom types; and

- identifying a bottom type of said location on the basis of the bottom type which the search unit associates with a combination of the first and second attributes,

<u>wherein, the performing the acoustic reflection measurement is performed by a first transmitter transmitting a wave perpendicular from the first transmitter to the bottom and back, and</u>

<u>the performing the acoustic scattering measurement is performed by a second transmitter transmitting waves traveling at an angle relative to said perpendicular direction from the second transmitter to the bottom and back.</u>

2. (original) A method according to claim 1, characterized in that performing the reflection measurement and the scattering measurement comprises the step of normalizing the measured reflected and scattered signal by compensating for acoustic effects involved in at least propagation in the liquid.

3. (<u>cancelled</u>)

4. (previously presented) A method according to claim 1, characterized in that performing the reflection measurement and scattering measurement comprises the step of generating just one actuation signal for the purpose of both measurements, after which, upon reception, reflection and scattering of the one actuation signal are distinguished.

5. (original) A method according to claim 4, characterized in that just one receiver records the reflected and scattered signal, with the reflected and scattered signal being distinguished by the use of a time window.

6. (previously presented) A method according to claim 1, characterized in that the second attribute represents a Lambert scattering parameter.

7. (previously presented) A method according to claim 1, characterized in that an actuation signal with a frequency spectrum that is substantially above 50 kHz causes the scattered signal.

8. (currently amended) A measuring device for classifying a type of bottom under a liquid, which device is provided with

- transmitting means arranged for generating acoustic actuation signals;

- receiving means arranged for recording a first attribute of a reflected signal that is reflected from a location on the bottom through the liquid in a reflection direction;

- calculating means arranged for assigning a bottom classification on the basis of the first attribute, characterized in that the receiving means are further arranged for distinguishing a signal scattered from the bottom and recording a second attribute of the scattered signal, and that the calculating means comprise a search unit in which information has been programmed which associates bottom types with respective combinations of values of the first and second attributes, while the calculating means are arranged for identifying the bottom type by associating a combination of the first and second attributes with information from the search unit,

wherein, the transmitting means and the receiving means respectively comprise:

a first transmitter and a first receiver for the purpose of the reflection measurement, the first transmitter and the first receiver being designed with a single transducer, the first transmitter transmitting a wave in a direction perpendicular from the first transmitter to the bottom and back, and

a second transmitter and a second receiver for the purpose of the scattering measurement, the second transmitter and the second receiver being designed with a single transducer, the second transmitter transmitting a wave at an angle relative to said perpendicular direction from the second transmitter to the bottom and back.

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9. (original) A measuring device according to claim 8, characterized in that the receiving means comprise a receiver which is arranged for recording both the reflected and the scattered signal, and for distinguishing the respective signals by the use of a time window.

10. (cancelled)

11. (cancelled)

12. (currently amended) A computer program product embodied in a computer-readable medium, for classifying a type of bottom under a liquid, which computer program product comprises instructions for causing the following steps to be carried out:

- recording a first attribute of a reflected signal of a reflection measurement on acoustic waves being reflected from a location on the bottom through the liquid in a reflection direction;~

- recording a second attribute of a scattered signal of a scattering measurement on acoustic waves being scattered essentially from said location on the bottom; and

- assigning different bottom types to respective combinations of values of the first and second attributes,

wherein the reflection measurement is performed by a first transmitter transmitting waves traveling in a direction perpendicular from the first transmitter to the bottom and back and that the scattering measurement is performed by a second transmitter transmitting waves traveling at an angle relative to said perpendicular direction from the second transmitter to the bottom and back.

13. (previously presented) A computer program product embodied in a computer-readable medium, according to claim 12, characterized in that the product further contains instructions for causing the following steps to be carried out:

- measuring the reflected and scattered signal with the aid of a receiver, and

- normalizing the measured reflected and scattered signal by compensating for acoustic effects involved in at least propagation in the liquid.

14. (cancelled)

15. (previously presented) A method according to claim 2, characterized in that performing the reflection measurement and scattering measurement comprises the step of generating just one actuation signal for the purpose of both measurements, after which, upon reception, reflection and scattering of the one actuation signal are distinguished.

16. (previously presented) A method according to claim 3, characterized in that performing the reflection measurement and scattering measurement comprises the step of generating just one actuation signal for the purpose of both measurements, after which, upon reception, reflection and scattering of the one actuation signal are distinguished.

17. (previously presented) A method according to claim 2, characterized in that the second attribute represents a Lambert scattering parameter.

18. (previously presented) A method according to claim 3, characterized in that the second attribute represents a Lambert scattering parameter.

19. (previously presented) A method according to claim 4, characterized in that the second attribute represents a Lambert scattering parameter.

20. (previously presented) A method according to claim 5, characterized in that the second attribute represents a Lambert scattering parameter.

21. (new) The method according to claim 1, further comprising:

displaying said identified bottom type as different character in a display grid of said location.